FIG. 1

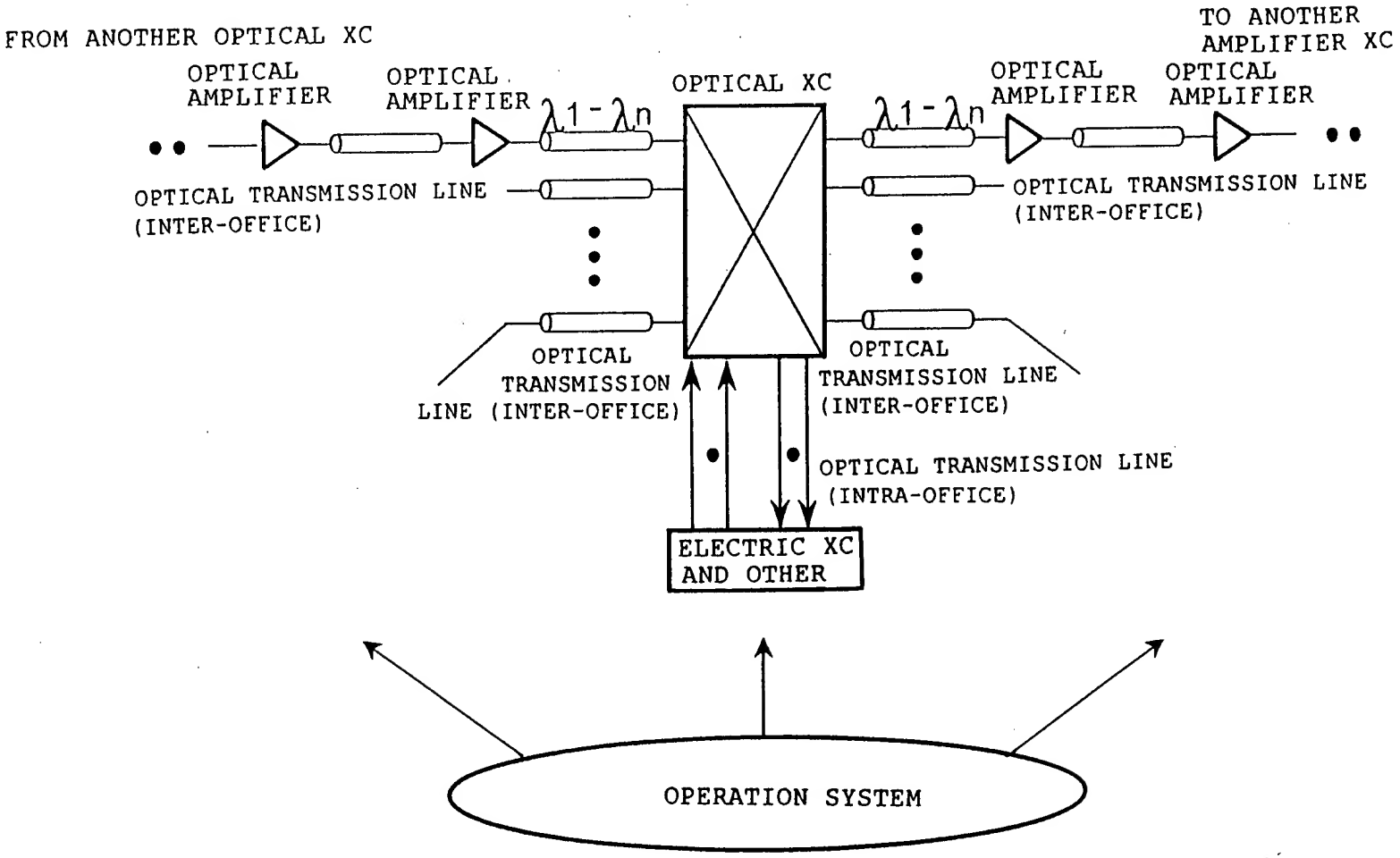
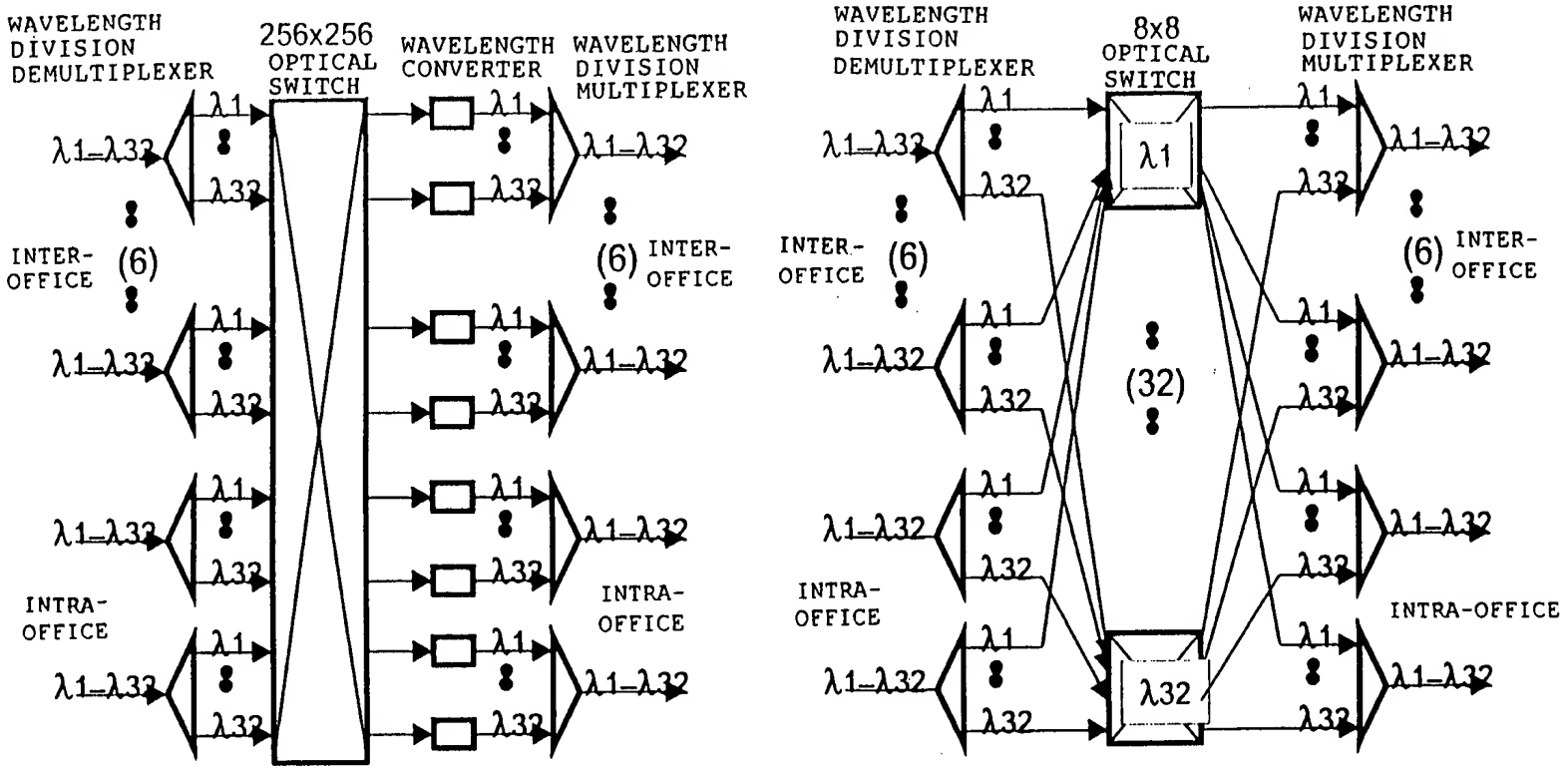

FROM ANOTHER OPTICAL XC
OPTICAL AMPLIFIER
OPTICAL AMPLIFIER
λ1 - λn
OPTICAL XC
λ1 - λn
OPTICAL AMPLIFIER
OPTICAL AMPLIFIER
TO ANOTHER AMPLIFIER XC
OPTICAL TRANSMISSION LINE (INTER-OFFICE)
OPTICAL TRANSMISSION LINE (INTER-OFFICE)
OPTICAL TRANSMISSION LINE (INTER-OFFICE)
OPTICAL TRANSMISSION LINE (INTER-OFFICE)
OPTICAL TRANSMISSION LINE (INTRA-OFFICE)
ELECTRIC XC AND OTHER
OPERATION SYSTEM

FIG. 2



(a) WAVELENGTH CONVERTING TYPE

(b) WAVELENGTH FIXING TYPE

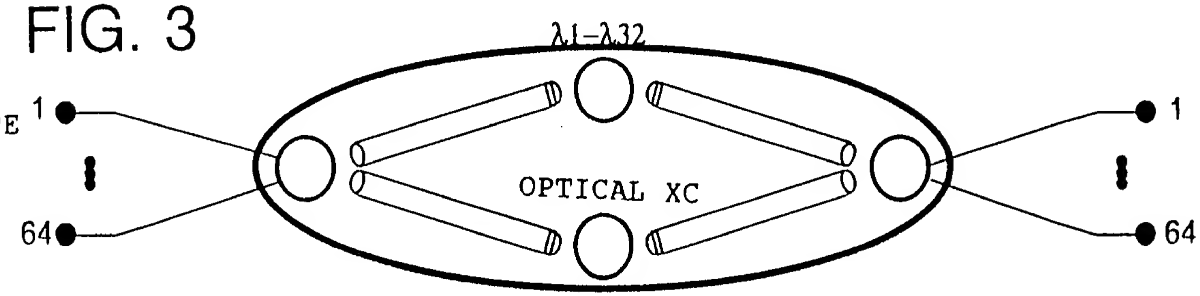
※ INTER-OFFICE LINK NUMBER: 6

※ INTRA-OFFICE LINK NUMBER: 2

※ WAVELENGTH MULTIPLEXED NUMBER: 32

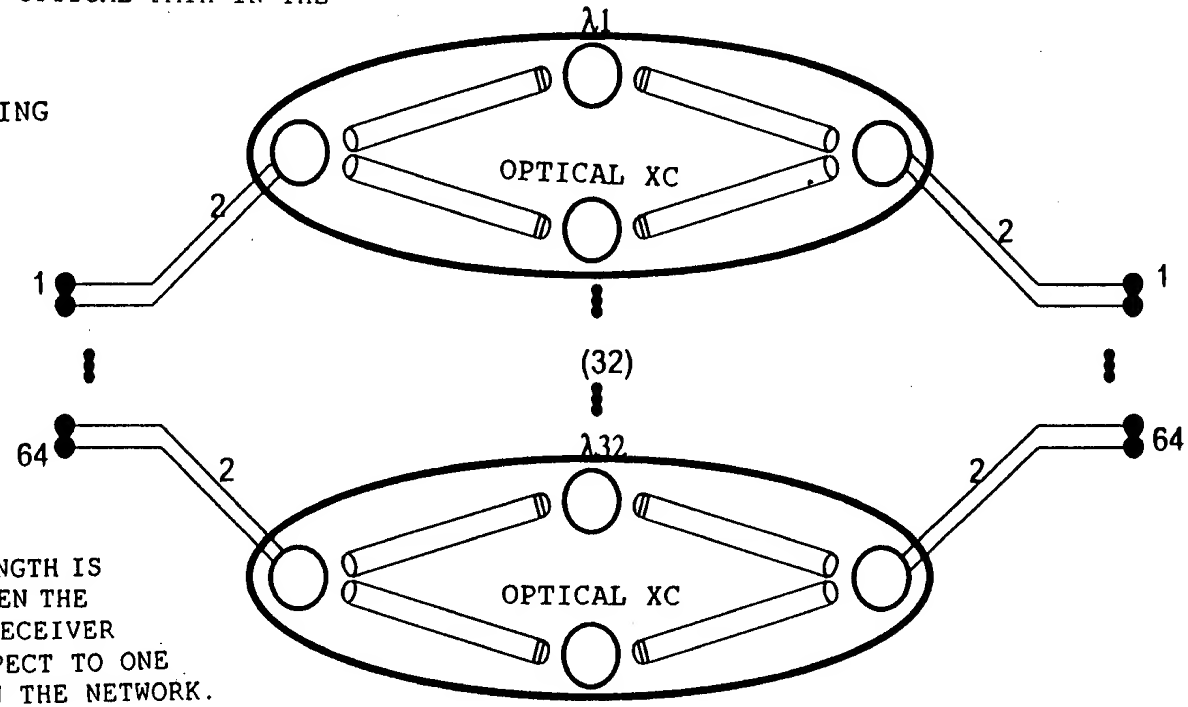
FIG. 3

(a) WAVELENGTH CONVERTING TYPE OPTICAL PATH NETWORK



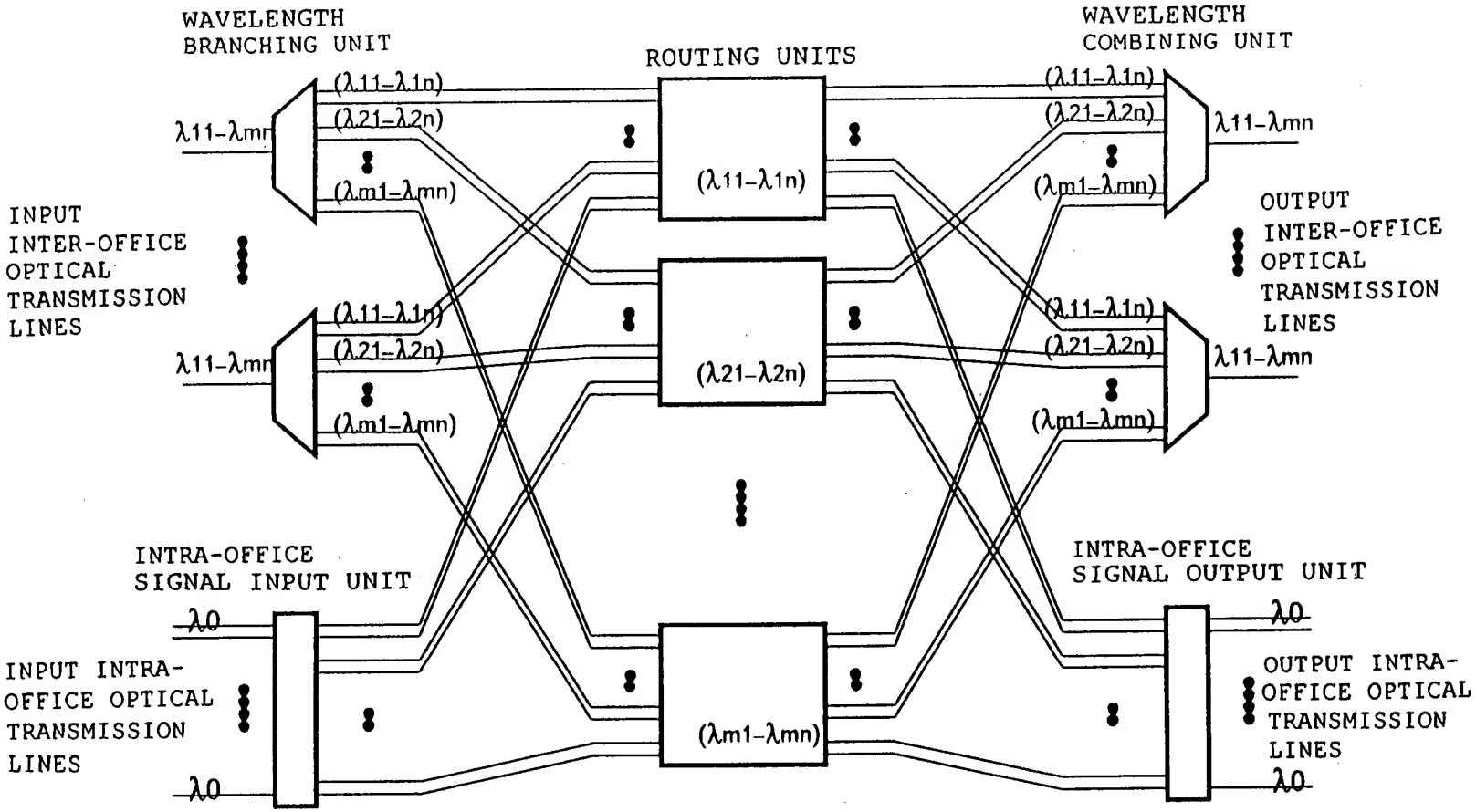
※ THE WAVELENGTHS ARE ALLOCATED IN THE LINK-BY-LINK BASIS BETWEEN THE SENDER AND RECEIVER NODES WITH RESPECT TO ONE OPTICAL PATH IN THE NETWORK.

(b) WAVELENGTH FIXING TYPE OPTICAL PATH NETWORK



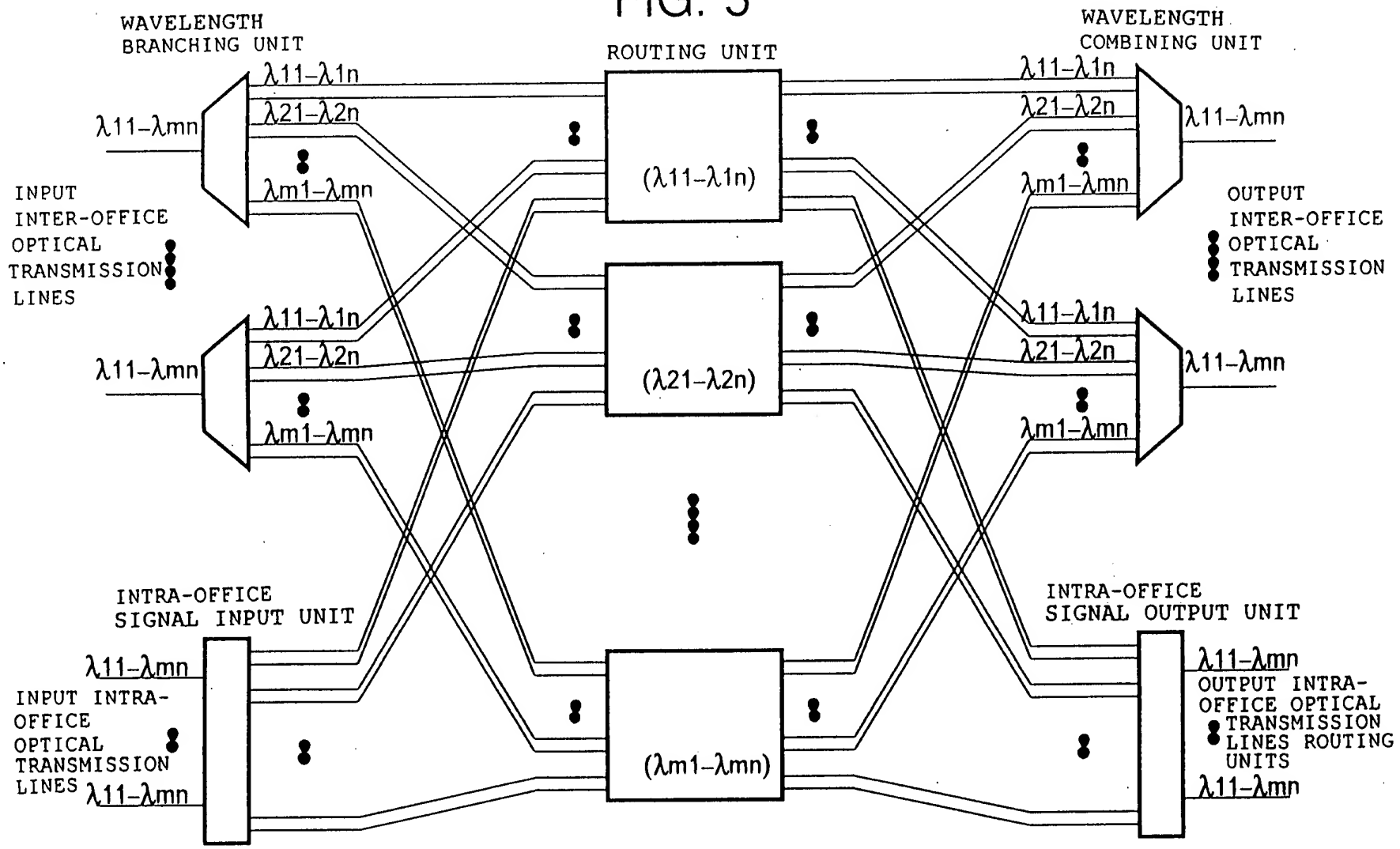
※ A SINGLE WAVELENGTH IS ALLOCATED BETWEEN THE SENDER AND THE RECEIVER NODES WITH RESPECT TO ONE OPTICAL PATH IN THE NETWORK.

FIG. 4



※ SUBDIVIDED INTO "M" PIECES OF ROUTING UNITS IN UNIT OF "N" WAVELENGTHS
※ PROVIDED WITH WAVELENGTH CONVERTER EACH OF THE RESPECTIVE

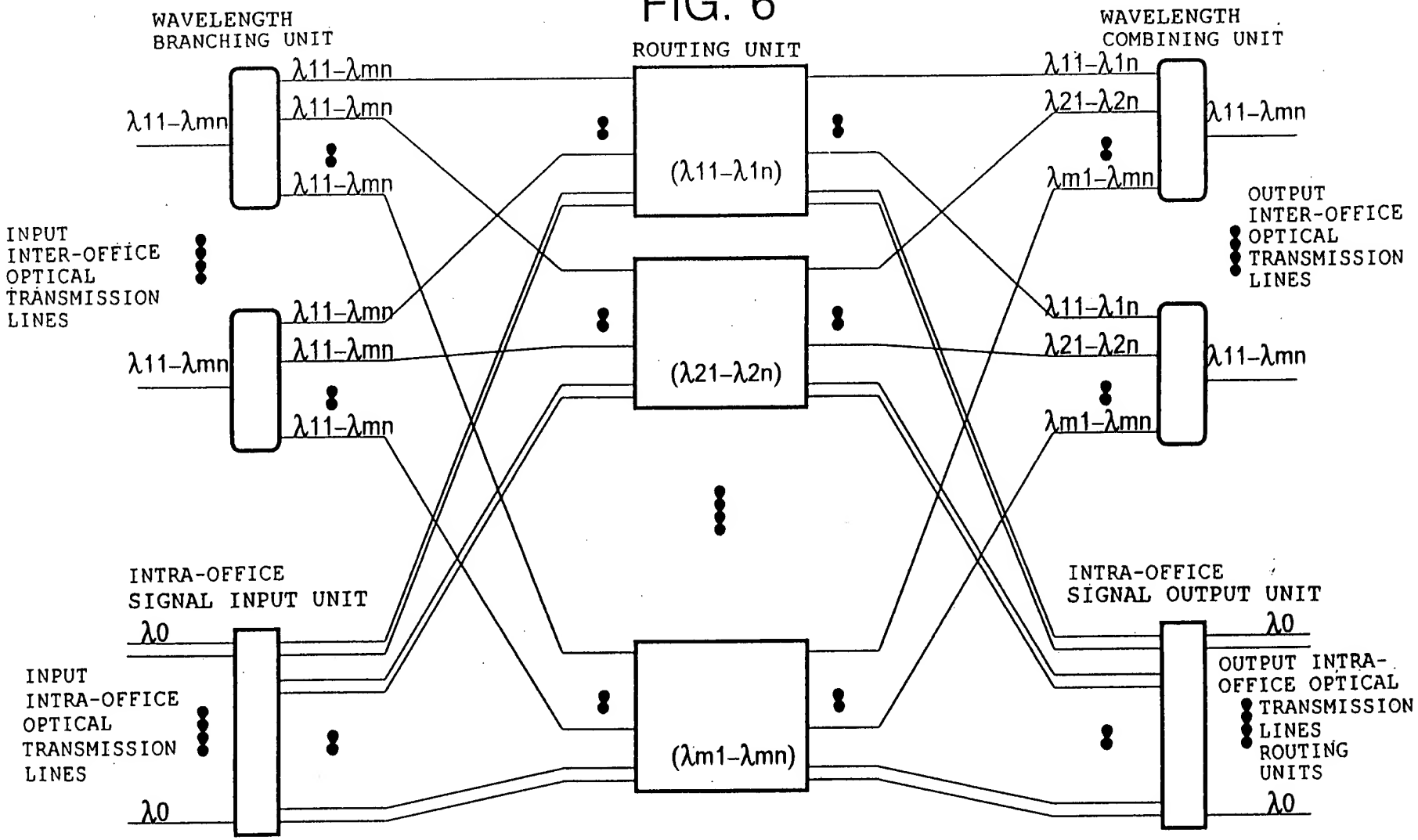
FIG. 5



※ SUBDIVIDED INTO "M" PIECES OF ROUTING UNITS IN UNIT OF "N" WAVELENGTHS

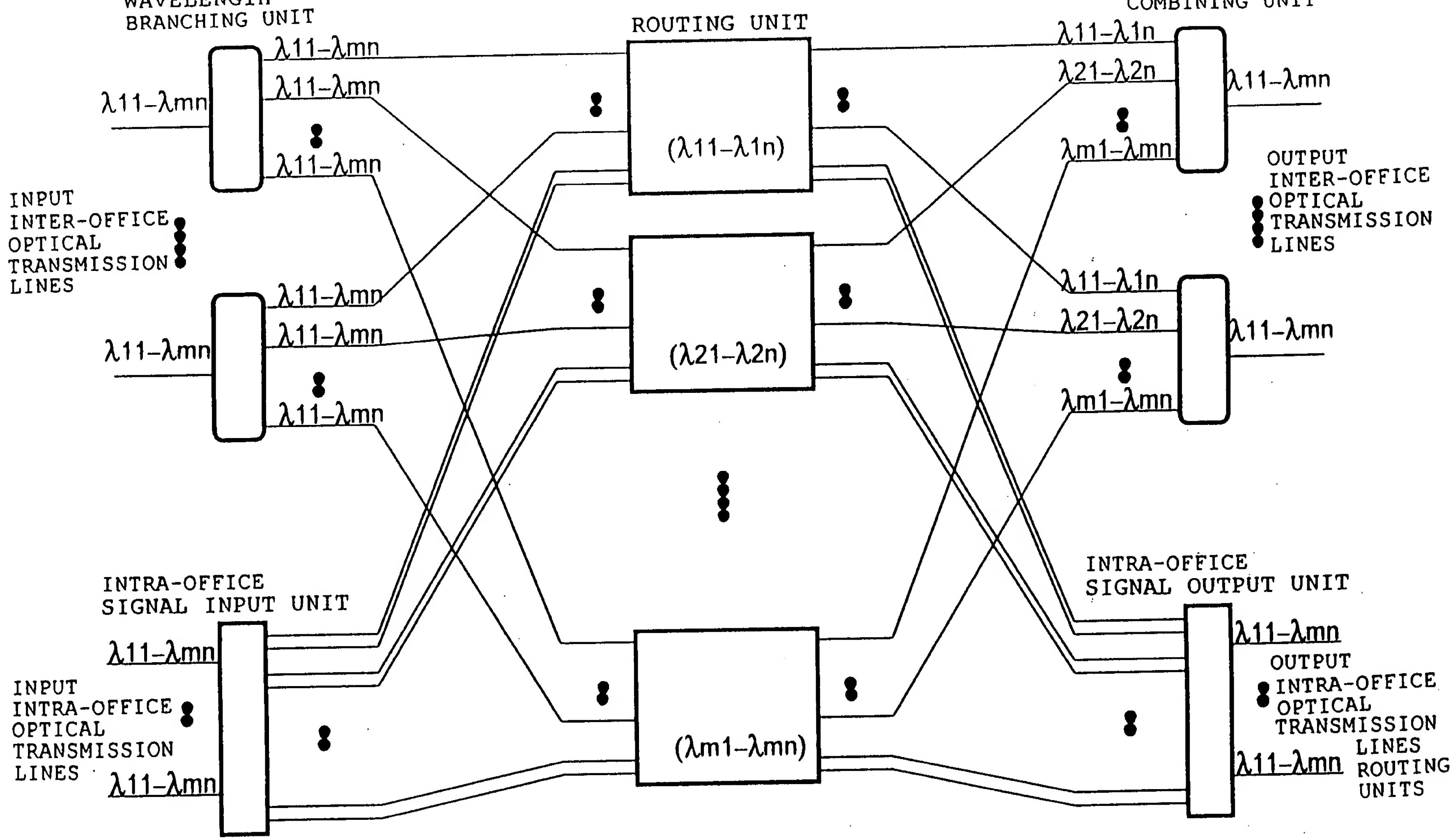
※ PROVIDED WITH WAVELENGTH CONVERTER EACH OF THE RESPECTIVE

FIG. 6



※ SUBDIVIDED INTO "M" PIECES OF ROUTING UNITS
※ IN UNIT OF "N" WAVELENGTHS
※ PROVIDED WITH WAVELENGTH CONVERTER EACH OF THE RESPECTIVE

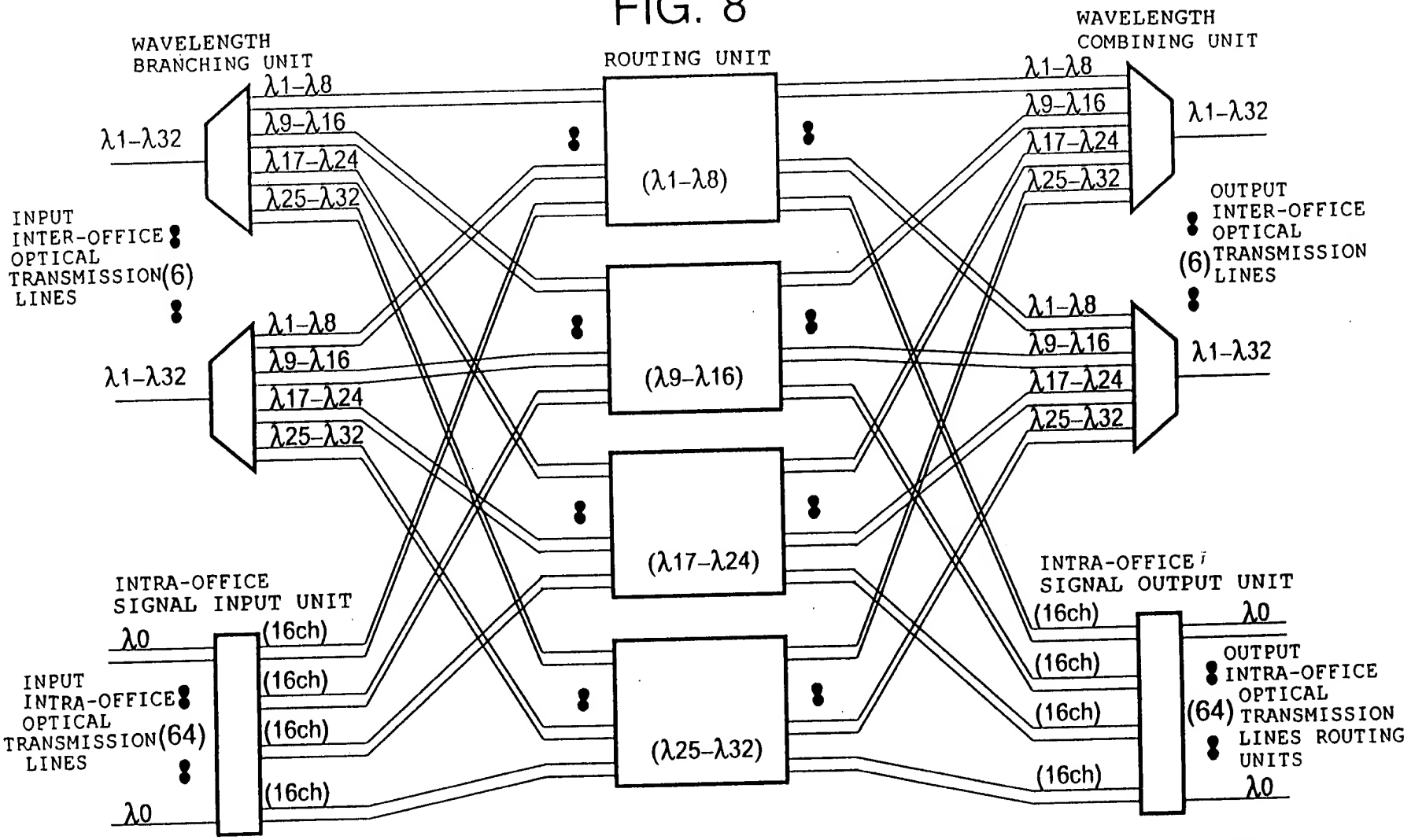
FIG. 7



※ SUBDIVIDED INTO "M" PIECES OF ROUTING UNITS IN UNIT OF "N" WAVELENGTHS

※ PROVIDED WITH WAVELENGTH CONVERTER EACH OF THE RESPECTIVE

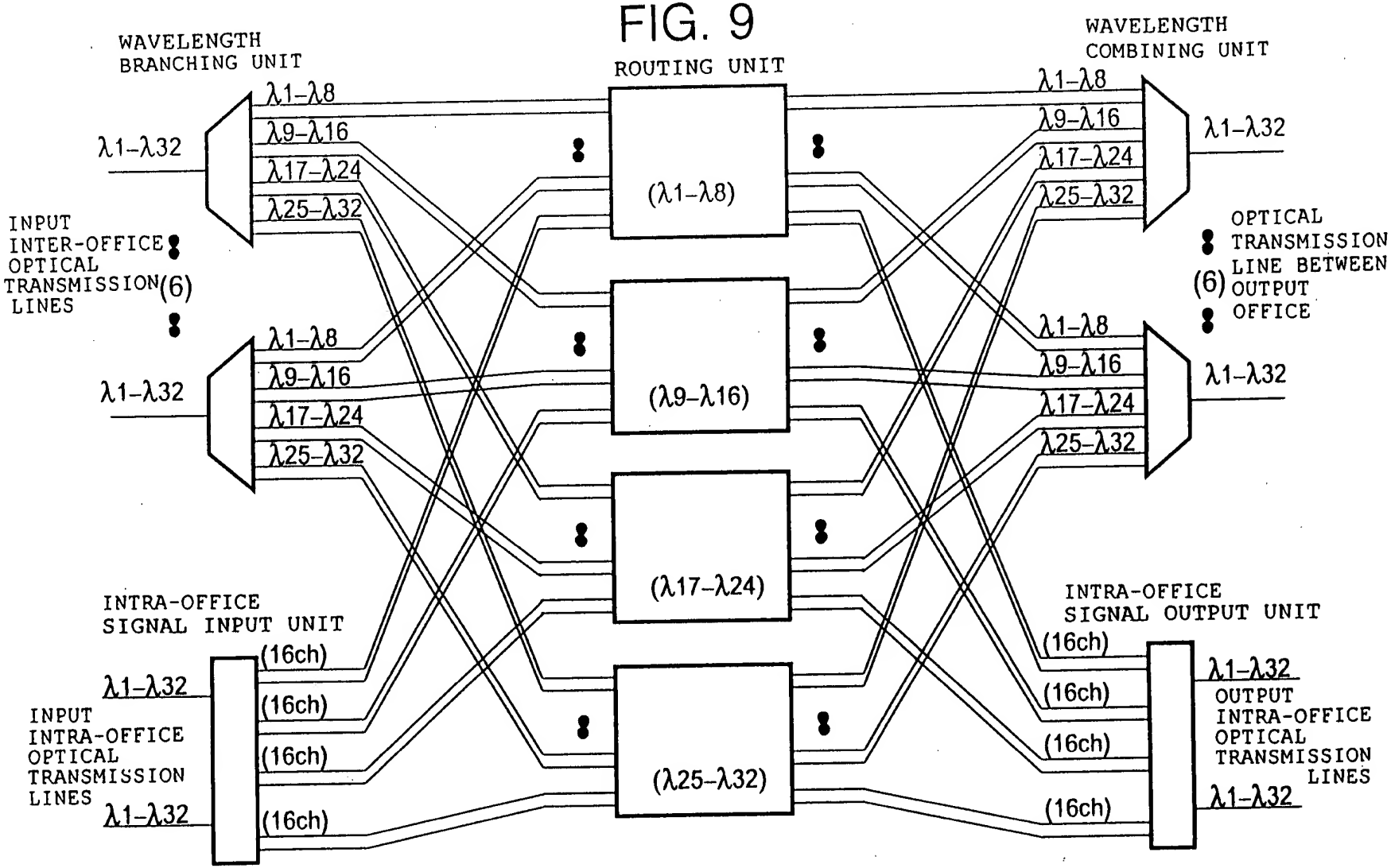
FIG. 8



※ SUBDIVIDED BY 4 PIECES OF ROUTING UNITS IN UNIT OF 8 WAVELENGTHS (WAVELENGTH NUMBER : 32)

※ INTER-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 192
INTRA-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 64

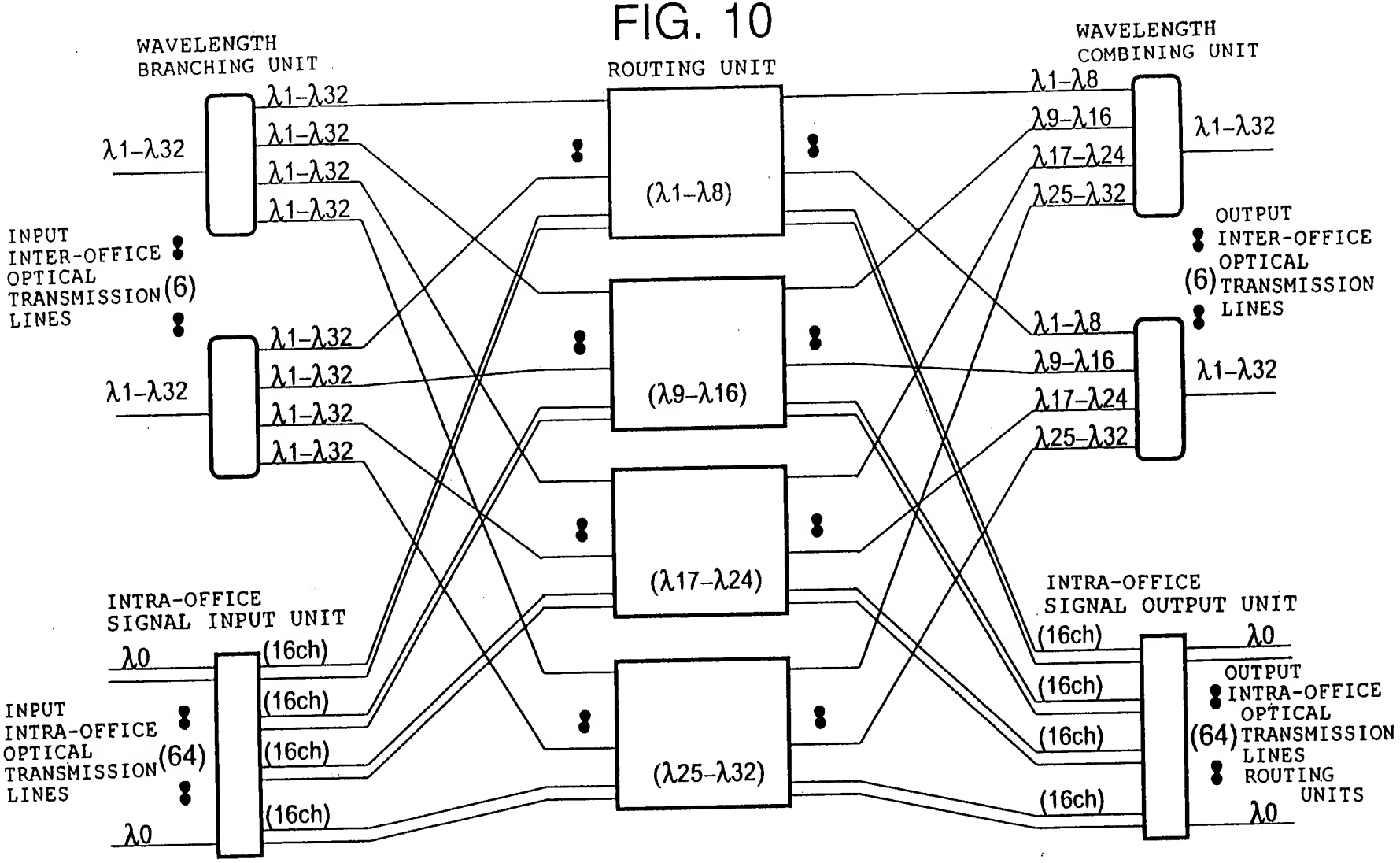
FIG. 9



※ SUBDIVIDED BY 4 PIECES OF ROUTING UNITS IN UNIT OF 8 WAVELENGTHS (WAVELENGTH NUMBER : 32)

※ INTER-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 192
INTRA-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 64

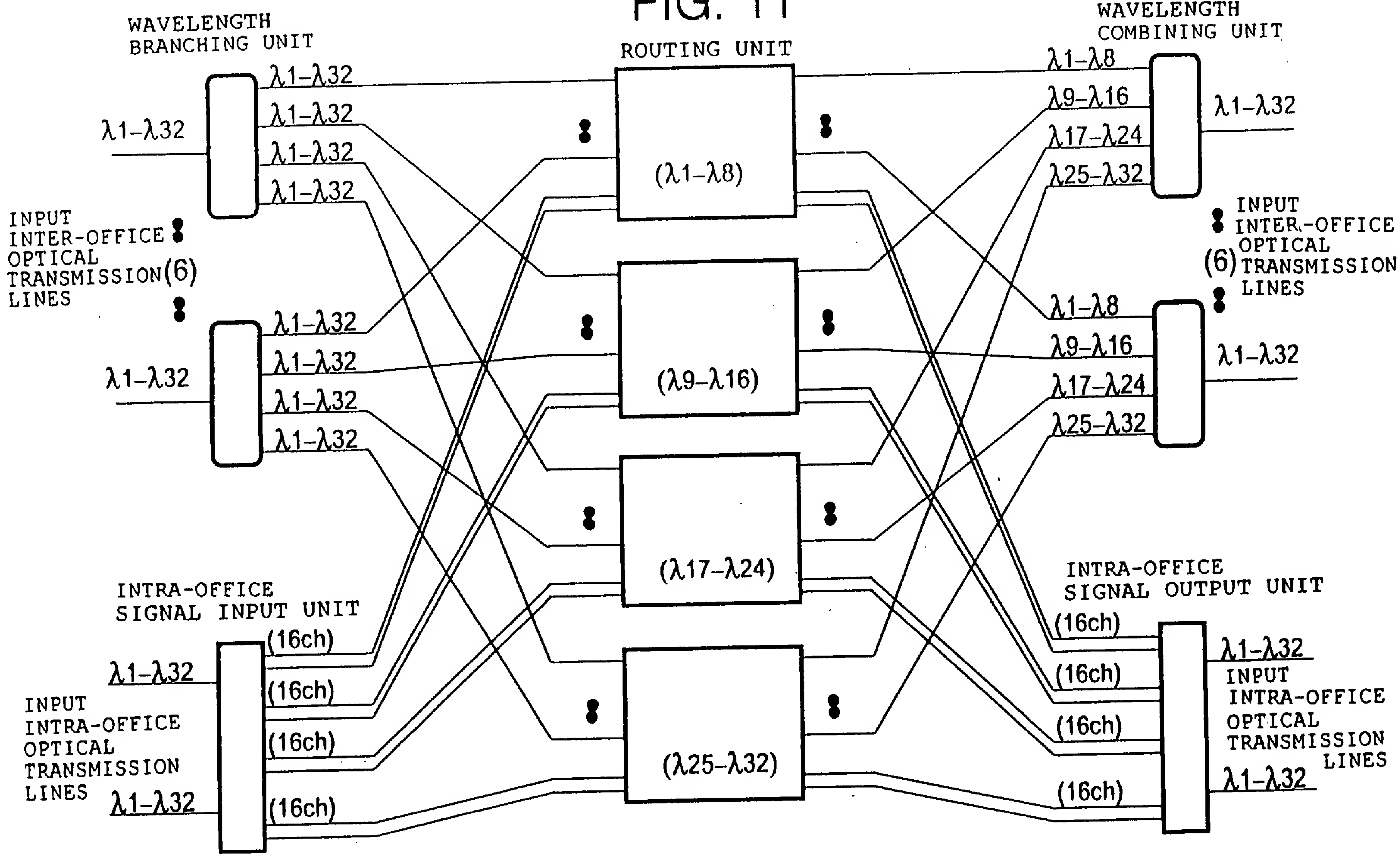
FIG. 10



※ SUBDIVIDED BY 4 PIECES OF ROUTING UNITS IN UNIT OF 8 WAVELENGTHS (WAVELENGTH NUMBER : 32)

※ INTER-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 192
INTRA-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 64

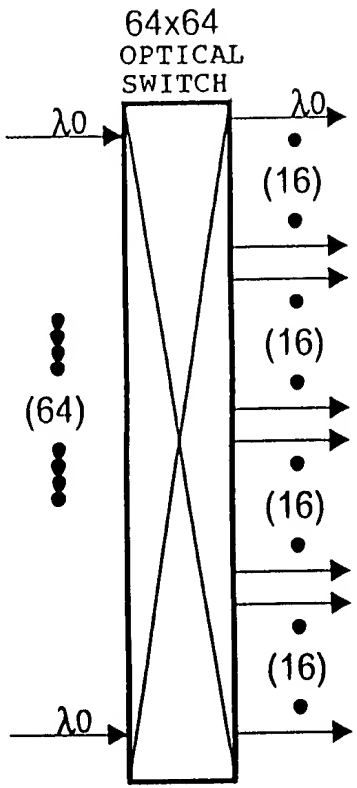
FIG. 11



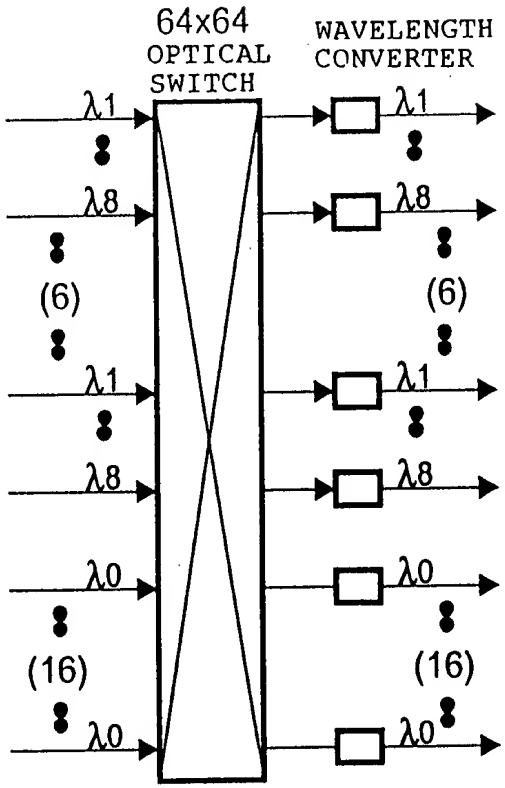
※ SUBDIVIDED BY 4 PIECES OF ROUTING UNITS IN UNIT OF 8 WAVELENGTHS (WAVELENGTH NUMBER : 32)

※ INTER-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 192
INTRA-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 64

FIG. 12

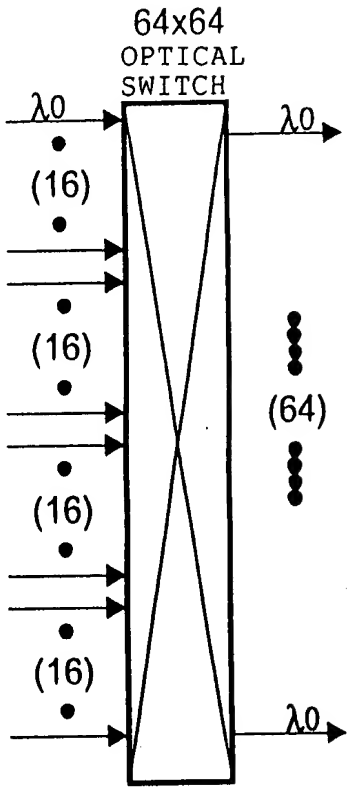


(a) INTRA-OFFICE SIGNAL INPUT UNIT



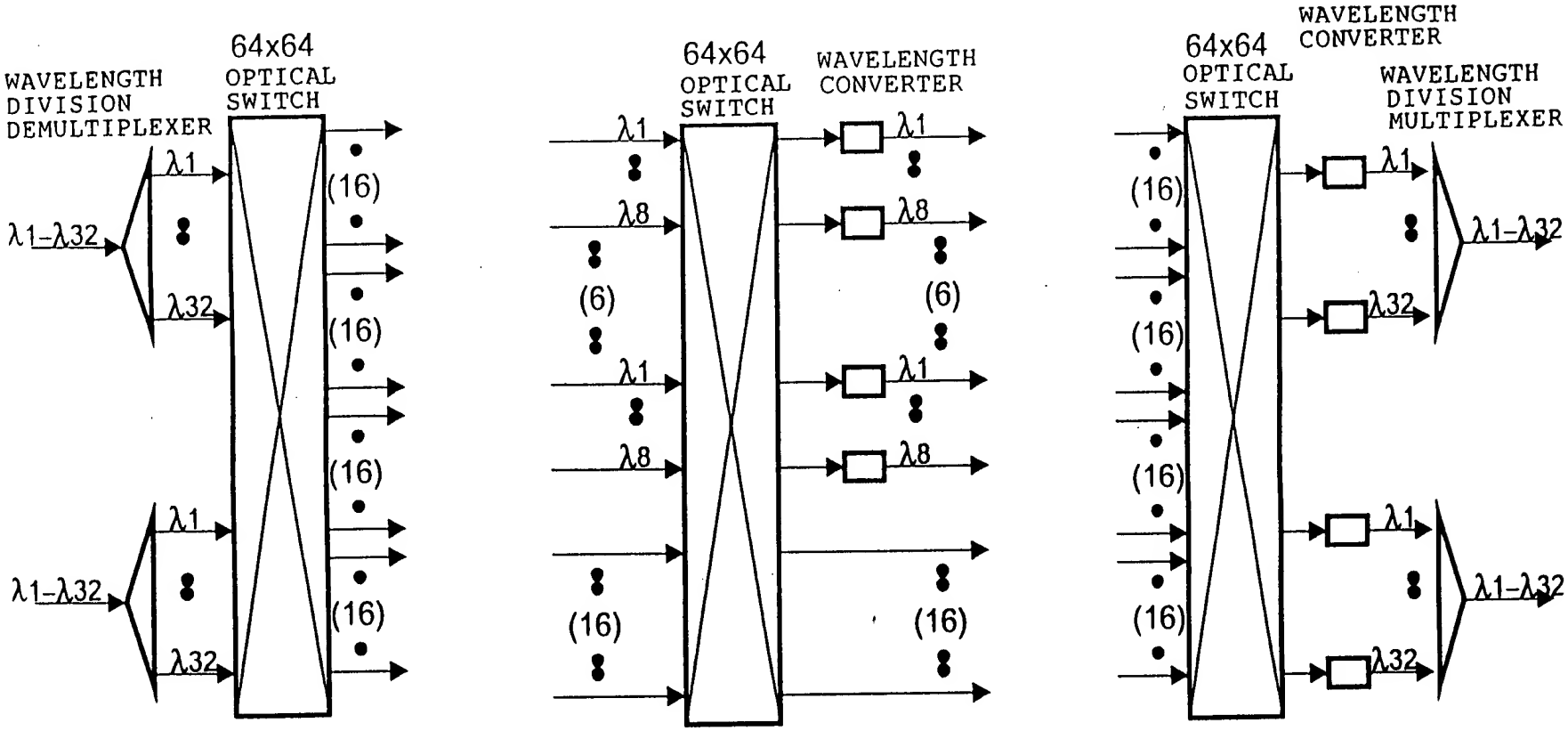
※ ROUTING UNIT FOR λ1 TO λ8

(b) ROUTING UNIT



(c) INTRA-OFFICE SIGNAL OUTPUT UNIT

FIG. 13



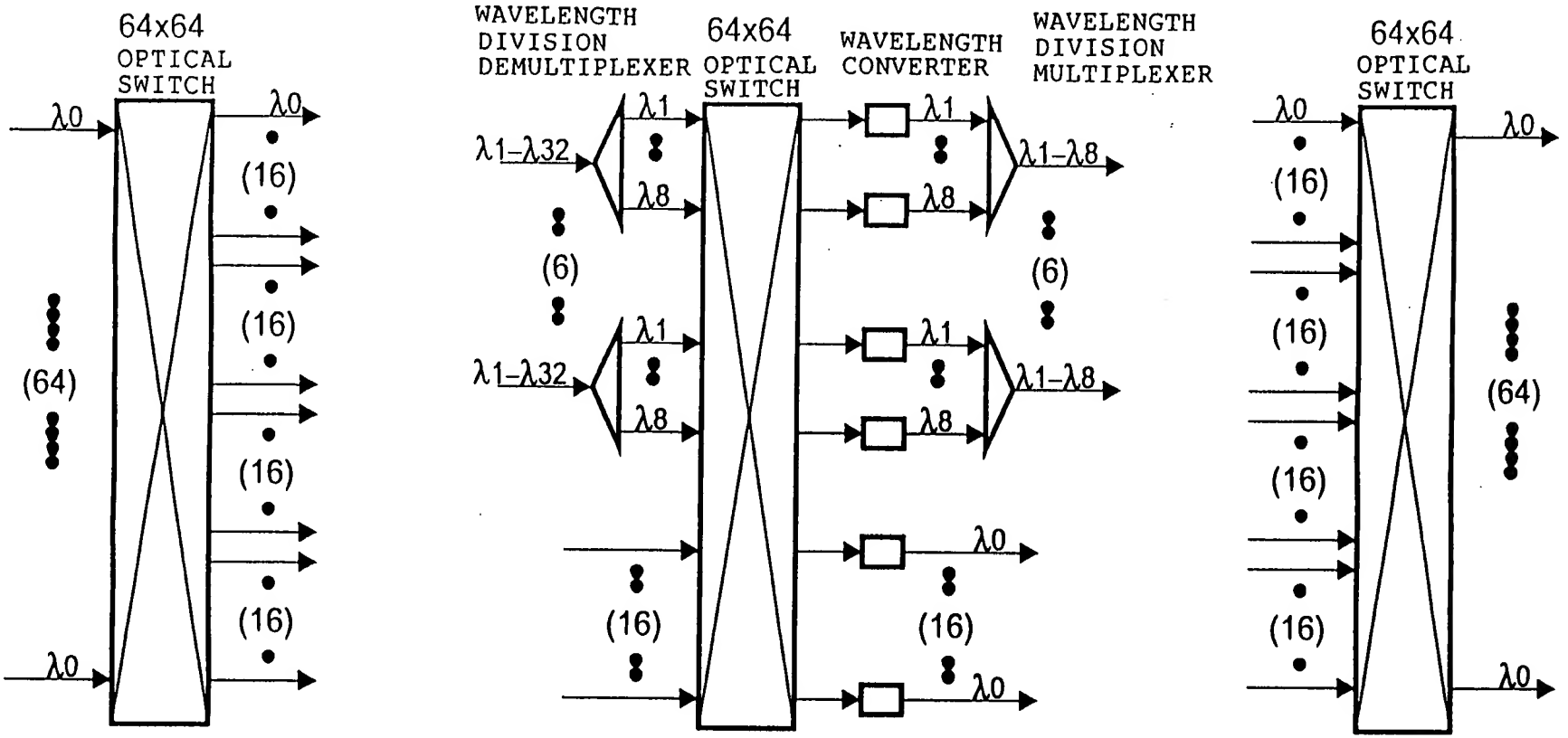
※ROUTING UNIT FOR λ1 TO λ8

(a) INTRA-OFFICE SIGNAL INPUT UNIT

(b) ROUTING UNIT

(c) INTRA-OFFICE SIGNAL OUTPUT UNIT

FIG. 14



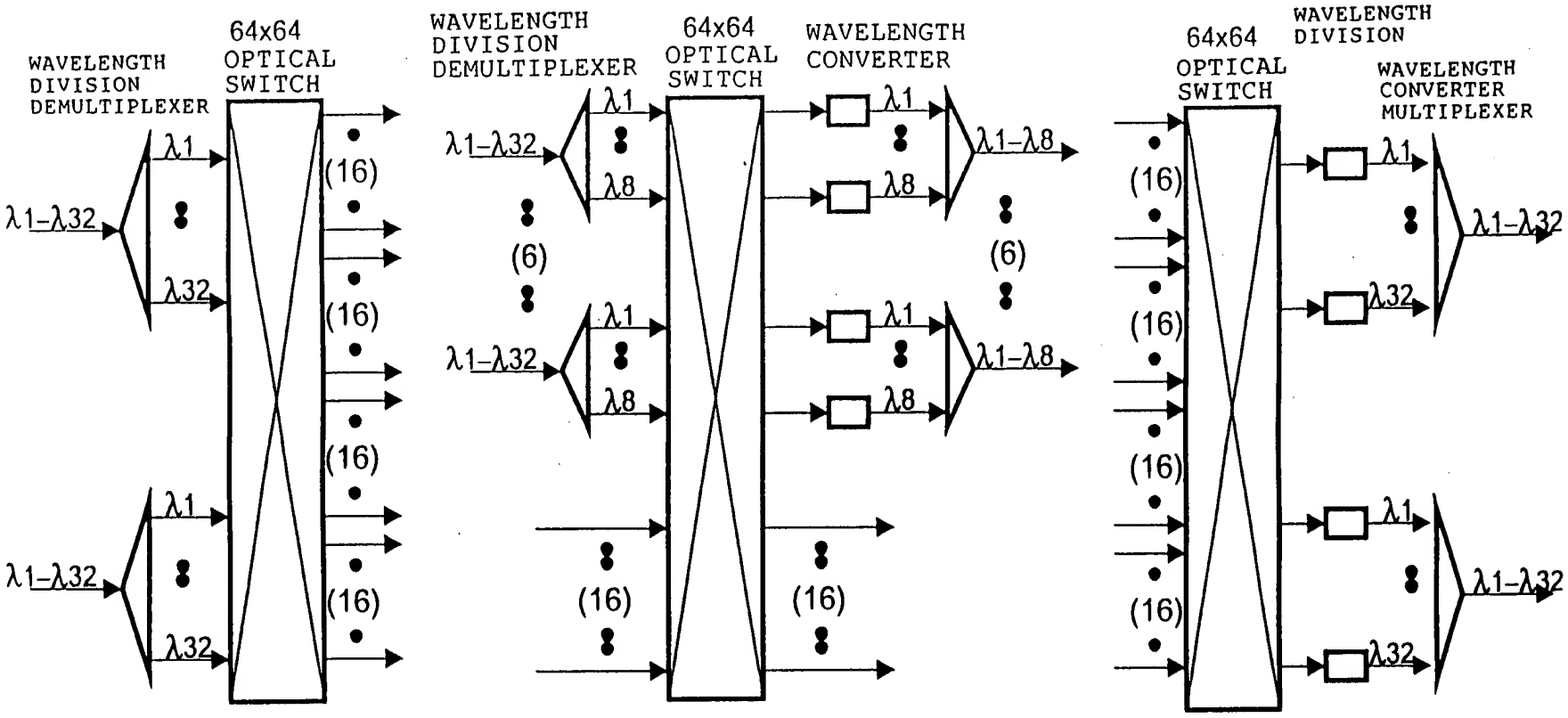
※ ROUTING UNIT FOR λ1 TO λ8

(a) INTRA-OFFICE SIGNAL INPUT UNIT

(b) ROUTING UNIT

(c) INTRA-OFFICE SIGNAL OUTPUT UNIT

FIG. 15



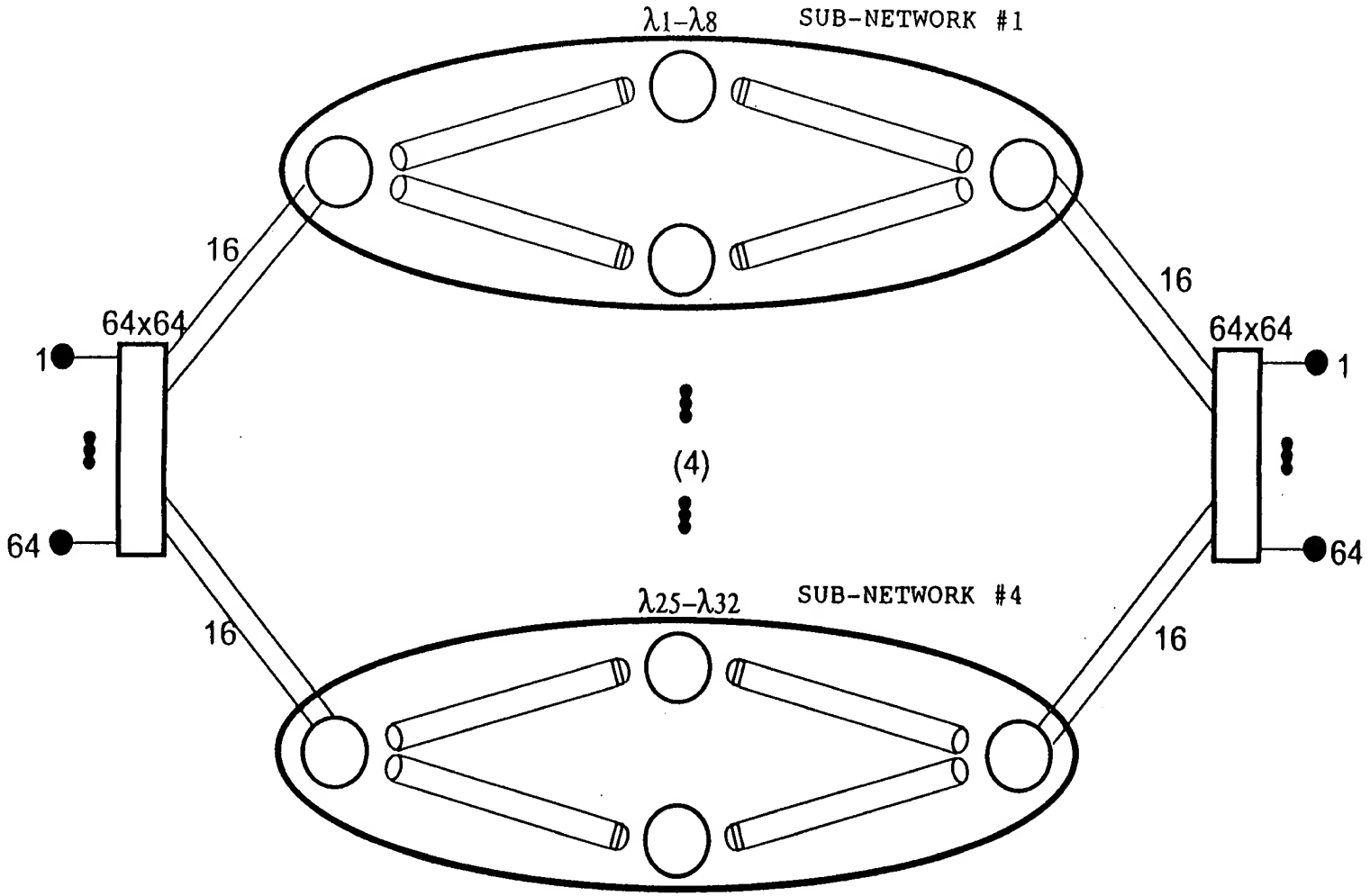
※ ROUTING UNIT FOR λ1 TO λ8

(a) INTRA-OFFICE SIGNAL INPUT UNIT

(b) ROUTING UNIT

(c) INTRA-OFFICE SIGNAL OUTPUT UNIT

FIG. 16



※ THE WAVELENGTHS ARE ALLOCATED IN THE LINK-BY-LINK BASIS IN THE SELECTED SUB-NETWORK BETWEEN THE SENDER AND THE RECEIVER NODES WITH RESPECT TO THE OPTICAL PATH IN THE NETWORK

FIG. 17

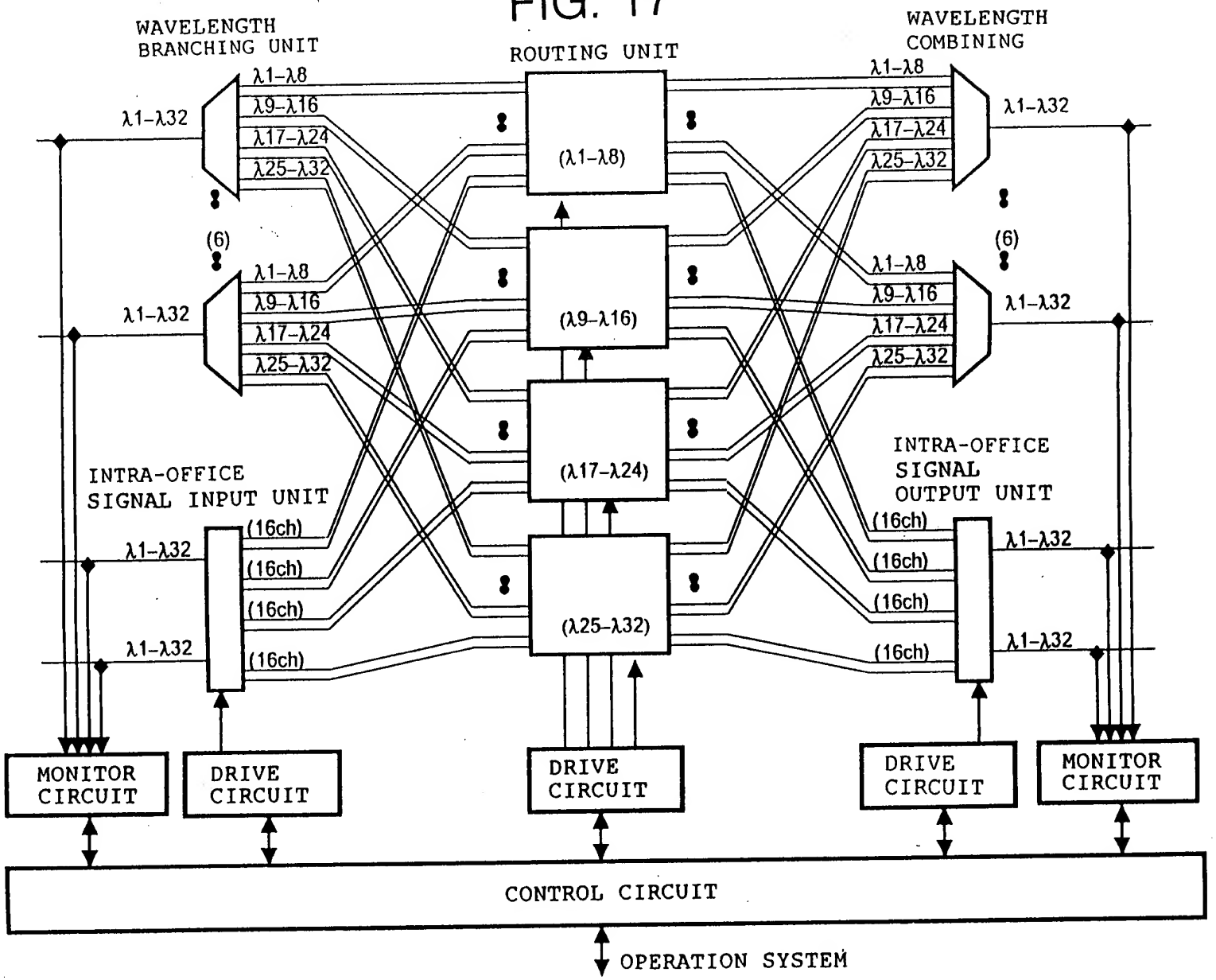
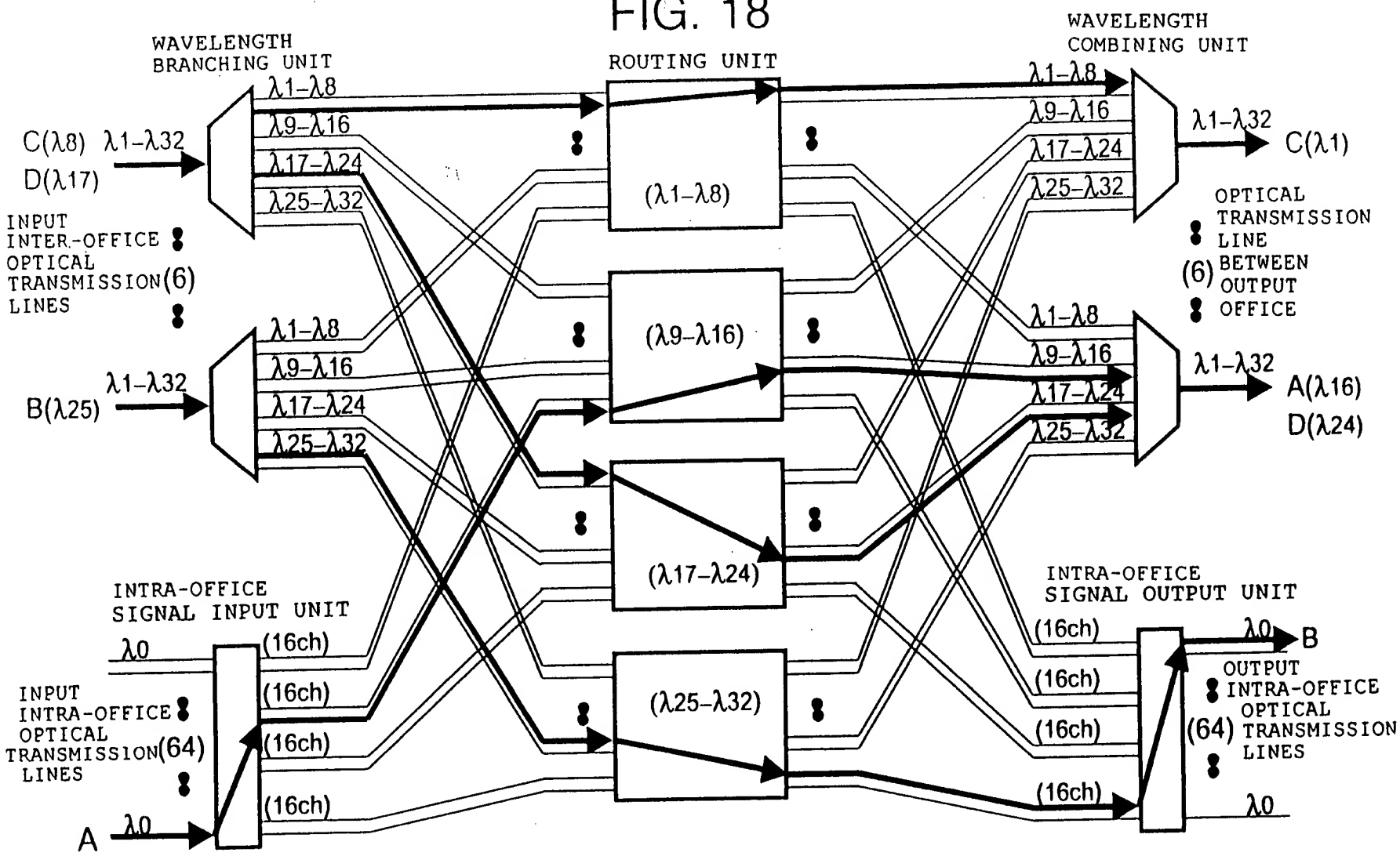

WAVELENGTH BRANCHING UNIT
ROUTING UNIT
WAVELENGTH COMBINING
λ1-λ32
λ1-λ8
λ9-λ16
λ17-λ24
λ25-λ32
(6)
(λ1-λ8)
(λ9-λ16)
(λ17-λ24)
(λ25-λ32)
INTRA-OFFICE SIGNAL INPUT UNIT
INTRA-OFFICE SIGNAL OUTPUT UNIT
(16ch)
MONITOR CIRCUIT
DRIVE CIRCUIT
CONTROL CIRCUIT
OPERATION SYSTEM

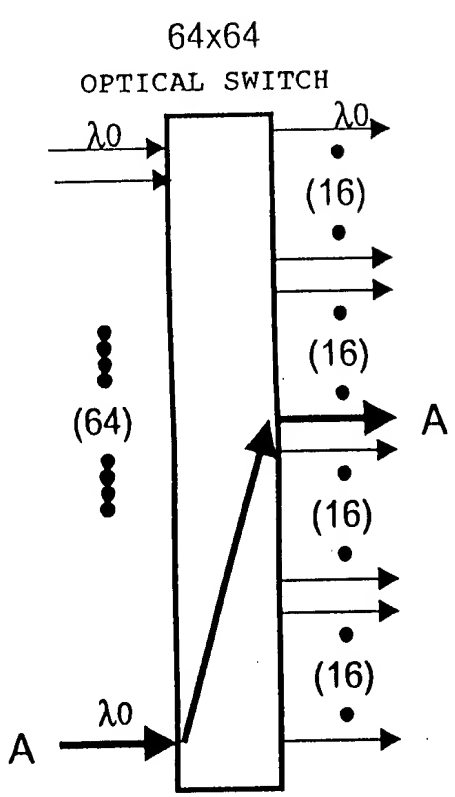
FIG. 18



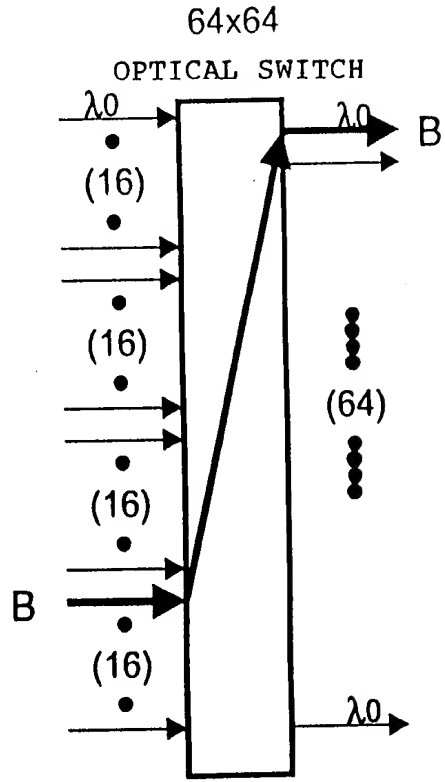
※ SUBDIVIDED BY 4 PIECES OF ROUTING UNITS IN UNIT OF 8 WAVELENGTHS (WAVELENGTH NUMBER : 32)

※ INTER-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 192
INTRA-OFFICE OPTICAL SIGNAL CHANNEL NUMBER : 64

FIG. 19

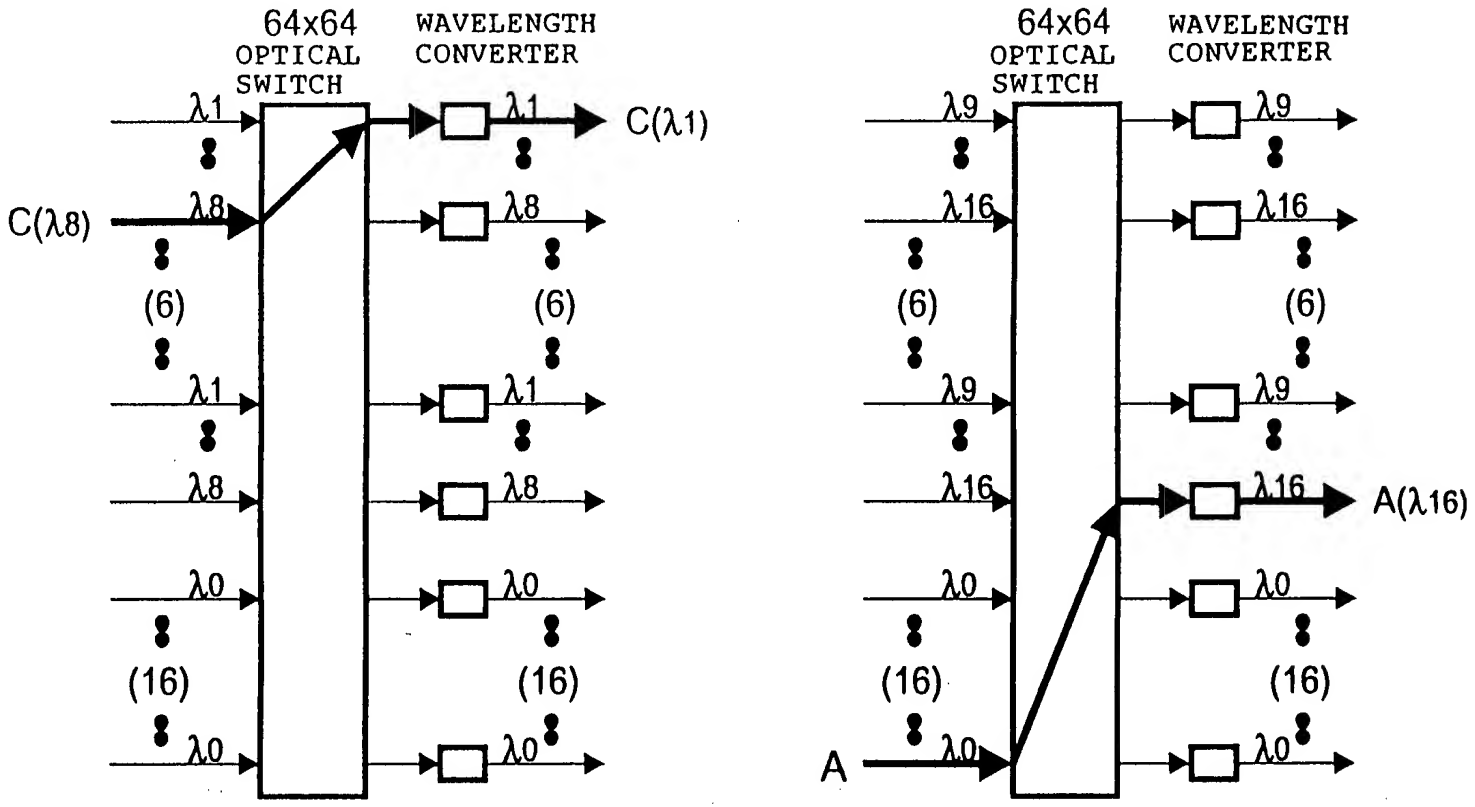


(a) INTRA-OFFICE SIGNAL INPUT UNIT



(b) INTRA-OFFICE SIGNAL OUTPUT UNIT

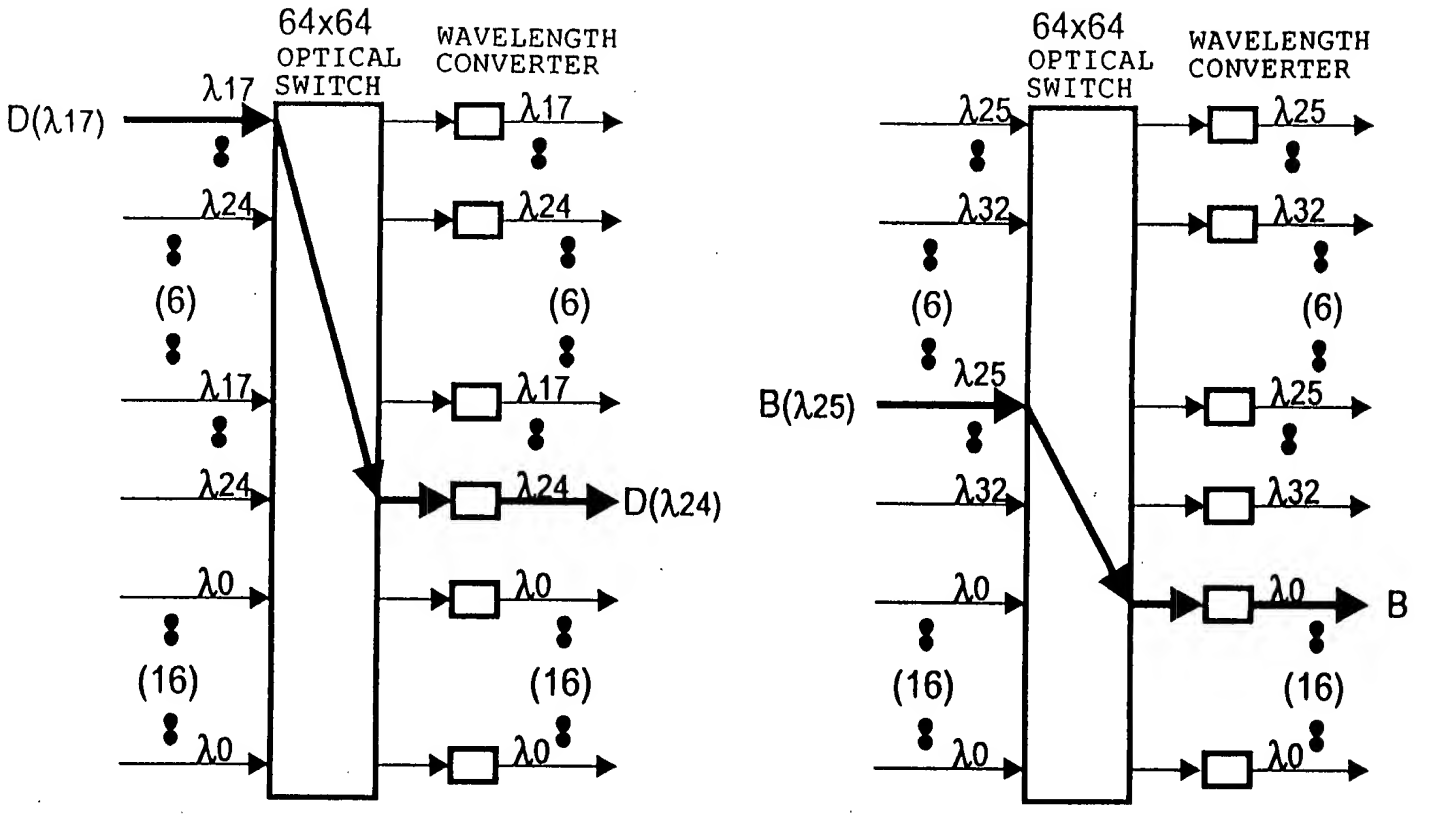
FIG. 20



(a) ROUTING UNIT FOR λ1 TO λ8

(b) ROUTING UNIT FOR λ9 TO λ16

FIG. 21



(a) ROUTING UNIT FOR λ17 TO λ24

(b) ROUTING UNIT FOR λ25 TO λ32

FIG. 22